WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins in an amount effective to induce cartilage formation.

2. The composition of claim 1 wherein the at least one cartilage formation inducing protein is FGF-18.

3. The composition of claim 1 wherein the at least one cartilage formation inducing protein is FGF-18 in combination with at least one target gene protein selected from the group consisting of the Shh, β-catenin, and Wnt proteins.

4. A method for inducing cartilage formation in an affected area of a patient requiring such treatment comprising the step of administering to the affected area a pharmaceutical composition containing an amount of at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins effective to induce cartilage formation in the affected area.

5. The method of claim 4 wherein the at least one cartilage formation inducing protein is FGF-18.

6. The method of claim 4 wherein the at least one cartilage formation inducing protein is FGF-18 in combination with at least one target gene protein selected from the group consisting of the Shh, β-catenin, and Wnt proteins.

7. An expression vector comprising at least one nucleotide sequence encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins.

8. The vector of claim 7 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

9. A method of expressing FGF-18 protein in a cell *in vitro*, comprising the step of providing an expression vector comprising at least one nucleotide sequence encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins

10. The method of claim 9 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

11. A method for treating a patient in need of cartilage formation in an affected area of the patient, the method comprising the step of introducing to the affected area an expression vector comprising at least one nucleotide sequence encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins to induce cartilage formation in the cells.

12. The method of claim 11 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

13. The method of claim 11 wherein the affected area is a conducting airway.

14. The method of claim 13 wherein the conducting airway is at least one of the trachea, bronchi, lung and larynx.

15. A method for treating a patient in need of cartilage formation in an affected area of the patient, the method comprising the step of administering to the affected area at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins in an amount effective to induce cartilage formation.

16. The method of claim 15 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

17. The method of claim 15 wherein the affected area is a conducting airway.

18. The method of claim 17 wherein the conducting airway is at least one of the trachea, bronchi, lung and larynx.

19. The method of claim 18 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

20. The method of claim 15 which comprises the further step of administering at least one Bone Morphogenetic Protein or Transforming Growth Factor to the affected area of a patient in an amount effective to enhance cartilage growth and patterning.

21. A cell culture comprising cells in a medium capable of sustaining cell growth, the cells having introduced therein an expression vector comprising at least one nucleotide sequence encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins.

22. The method of claim 21 wherein the at least one cartilage formation inducing protein is FGF-18 protein.

23. A cell culture comprising: (a) cells capable of producing cartilage in the presence of at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins; and (b) a medium capable of sustaining cell growth that contains an effective amount of the at least one cartilage formation inducing protein to induce cartilage formation in the cells.

24. The culture of claim 23 wherein the at least one cartilage formation inducing protein is FGF-18.

25. The culture of claim 23 wherein the at least one cartilage formation inducing protein is FGF-18 in combination with at least one target gene protein selected from the group consisting of the Shh, β-catenin, and Wnt proteins.

26. A cell culture comprising: (a) a first group of cells in a medium capable of sustaining cell growth; and (b) a second of group of cells of a type different from the first group

of cells and co-cultured therewith, the second group of cells having introduced therein an expression vector comprising nucleotide sequences encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins to induce formation of cartilage.

27. The culture of claim 26 wherein the at least one cartilage formation inducing protein is FGF-18.

28. A method for preparing a cell culture comprising cells capable of inducing cartilage formation *in vitro* in a medium capable of sustaining cell growth, the method comprising the step of introducing into the cells an expression vector comprising a coding sequence for encoding at least one cartilage formation inducing protein selected from the group consisting of FGF-18, Shh, β-catenin, and Wnt proteins

29. The method of claim 28 wherein the at least one cartilage formation inducing protein is FGF-18 protein.